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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
	)	
Telephone Number Portability	)	CC Docket No. 95-116
	)	
	)	RM 8535
	)	
	)	

PETITION FOR EXPEDITED RECONSIDERATION AND CLARIFICATION OF AMERITECH

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Dated: July 29, 1998
[LAP0180.doc]

TABLE OF CONTENTS

I. INTRODUCTION AND SUMMARY 1

II. USE OF OVERHEAD ALLOCATION FACTORS IS NORMAL AND NECESSARY TO ENSURE RECOVERY OF ALL INCREMENTAL COSTS. 4

III. LIKE OTHER NEW SERVICES, THE QUERY SERVICE SHOULD BE PRICED USING GENERAL OVERHEAD FACTORS. 7

IV. CONSISTENT WITH OTHER SERVICES, ONE LNP MONTHLY CHARGE SHOULD BE ASSESSED TO EACH PBX TRUNK. 8

V. THE COMMISSION SHOULD CLARIFY IF IT HAS ASSERTED JURISDICTION OVER UNBUNDLED ACCESS TO THE LNP DATABASE. 11

VI. THE COSTS OF INTERIM NUMBER PORTABILITY SHOULD BE RECOVERED THROUGH THE LNP MONTHLY CHARGE. 12

VII. FGA LINES, LIKE OTHER FX LINES, SHOULD PAY THE NUMBER PORTABILITY MONTHLY CHARGE. 13

VIII. CONCLUSION. 14

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I. INTRODUCTION AND SUMMARY

Ameritech files its Petition for Expedited Reconsideration and Clarification of the Commission's LNP Cost-Recovery Order.[1] Ameritech has strongly supported the concept of number portability over the past five years, and has been one of the leaders in the development and deployment of long-term number portability ("LNP") at both the state and federal levels. Ameritech applauds the Commission's LNP Cost-Recovery Order and believes that in many respects it complies with the competitively-neutral cost recovery mandate of the Telecommunications Act of 1996.[2] However, Ameritech files this petition seeking reconsideration and clarification of certain aspects of the Commission's LNP Cost-Recovery Order where the Commission's decision is either based upon a mistake of the fact, or needs further clarification before it can be implemented. It is essential that the Commission promptly address each of these issues, since they are relevant to the establishment of the LNP monthly

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[1] Telephone Number Portability, CC Docket No. 95-116, RM 8535, Third Report and Order, released May 12, 1998 ("LNP Cost-Recovery Order").

charge that will be filed early next year.

By way of background, it is important to understand that any limitation or restriction imposed by the Commission on the reasonable recovery of LNP costs are not competitively-neutral as required by the Telecommunications Act of 1996 and the Commission's LNP Cost-Recovery Order. The reason is simple – such restrictions only apply to incumbent LECs and not to their competitors. This is because the Commission chose to exclude competitive LECs ("CLECs") and CMRS providers from the requirement that they only recover their LNP costs through the LNP monthly charge, and permitted them to "recover their carrier-specific costs . . . in any lawful manner . . . ." (para 136) Also, CLECs are not required to explain and defend their cost methodologies in this proceeding. Rather, it appears that the Commission will only provide "guidance" to incumbent LECs, and will not require that CLECs file tariffs for the recovery of their LNP costs[3]. As such, the Commission is not correct that the "competitive-neutrality mandate" does not require "the Commission to ensure that carriers recover all their number portability costs." (para. 59)

Thus, in order to meet the competitively-neutral mandate, the Commission must ensure that incumbent LECs have a reasonable opportunity to recovery all relevant costs. Moreover, any limitation on the recovery of LNP costs may have a disparate impact since each carrier has its own unique cost structure and any such limitation on costs that may be recovered would affect each carrier differently. By the same token, since the monthly charge only applies to incumbent LECs, any errors or discriminations built into the charge does not have a competitively-neutral impact.

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[2] 47 C.F.R. Section 251(e).

[3] See, LNP Cost-Recovery Order, paras. 75, 167.

Ameritech seeks reconsideration or clarification of the following points:

1. The Commission should clarify or upon reconsideration determine that while the use of general overhead factors is not permitted, the use of allocation factors is allowed. The LNP monthly charge should recover <u>all</u> incremental costs of providing number portability, including incremental overhead costs, not just those that can be specifically identified in a cost study. The Commission mistakenly found that incumbent LECs could recover only overheads that they demonstrate are incremental to LNP in order to prevent "double-recovery." However, if this ruling is interpreted to preclude the use of allocation factors, then incumbent LECs will be precluded from recovering a very substantial amount of the increment overhead-type costs caused by LNP. Factors are routinely used to measure incremental overheads and will not lead to double recovery. Rather, the use of allocation factors in conjunction with specific overhead-type costs is necessary to prevent a significant under-recovery of the incremental costs of LNP. Ameritech estimates that the inability to use allocation factors will result in up to 79% of the incremental shared and common costs of LNP not being recovered or an under-recovery of up to $40 Million. As such, the use of allocation factors is necessary to prevent a subsidy to LNP in violation of the competitive neutrality requirements of Section 251(e)(2) of the Telecommunications Act of 1996.

2. The Commission should reconsider its decision precluding the use of general overhead factors to price the Query Service. The Query Service, like other new interstate services, should bear its share of all overhead costs.

3. The Commission should reconsider the application of trunk equivalency to Centrex and PBX and apply it on the same basis as the Presubscribed Interexchange Carrier Charge ("PICC") surcharge ordered by the Commission. That is to say, one monthly charge should be assessed to each PBX trunk and $1/9^{th}$ of that charge to each Centrex line. This approach is necessary so PBX users do not bear an unreasonably high share of the LNP cost subsidy. Also, application of trunk equivalency on a basis different that the PICC would create unforeseen administrative and billing problems and costs.

4. The Commission should clarify whether or not it has asserted jurisdiction over unbundled access to the LNP database unbundled network element, and if so, whether that network element should be offered under contract consistent with Sections 251(c)(3) and 252 of the Telecommunications Act of 1996, or under interstate tariffs.

5. The Commission should clarify that it has asserted jurisdiction over the recovery of interim number portability costs, so those costs can be recovered through the same competitively-neutral mechanism as LNP costs. This approach will ensure consistency across jurisdictions and will eliminate duplication and increase efficiency.

6. The Commission should reconsider or clarify that the number portability monthly charge should be assessed to FGA access lines because they are used by end users

like foreign exchange ("FX") and exchange lines that are subject to the charge. For this reason, it would be discriminatory and a violation of the competitive-neutrality mandate to exclude FGA lines from the application of the LNP monthly charge.

II. USE OF OVERHEAD ALLOCATION FACTORS IS NORMAL AND NECESSARY TO ENSURE RECOVERY OF ALL INCREMENTAL COSTS.

In the LNP Cost-Recovery Order (para. 74) the Commission determined that incumbent LECs may only recover "those incremental overheads that they can demonstrate they incurred specifically in the provision of long-term number portability." However, the Commission specifically prohibited the use of "general overhead loading factors" because their use "might lead to double recovery." The Commission is correct that there are incremental overhead costs that should be recovered on a competitively-neutral basis through the LNP monthly charge. In fact, Ameritech does not intend to use a general overhead factor to price the LNP monthly charge. However, if the Commission interprets its LNP Cost-Recovery Order as precluding the use of allocation factors to identify the incremental overhead-type costs of LNP, that decision would preclude the recovery of a significant amount of the incremental costs of LNP in violation of the Commission's LNP Cost-Recovery Order.

As demonstrated in the attached economic white paper (Attachment A) by Dr. Debra Aron, the factual and economic basis for precluding the use of allocation factors to identify incremental overhead-type costs is mistaken. The use of allocation factors are necessary to recover all the incremental overhead costs caused by LNP. Failure to do so will mean that very significant incremental costs of LNP will not be recovered in violation of the Commission's own two pronged test for competitive neutrality. (para. 53) In the attached economic paper (Attachment A) Dr. Aron estimates that the inability to use allocation factors would result in up to 79% of the incremental shared and common costs of LNP remaining unrecovered, or a under-recovery of up to $40 Million per year. The incumbent LECs' inability to recover these very significant incremental costs of LNP through the number portability monthly charge will disparately impair their ability to earn a normal return since, as previously discussed, this constraint does not apply to CLECs and CMRS providers.[4] For the same reason, it will disparately affect the incumbent LECs' ability to compete for customers since the Commission's prohibition on the use of overhead factors will cause different levels of under-recovery for different competing carriers.

As demonstrated in Attachment A, the Commission is also mistaken when it states that use of overhead factors to determine incremental overhead costs will lead to double recovery. The fact is that the failure to use allocation factors will lead to a significant under recovery, since an entity's overhead costs increase as the size and scope of its operations increase. Failure to recognize this fundamental fact will result in LNP monthly rates that significantly under-recover the incremental costs caused by LNP. The problem is that it is not feasible or economical to specifically capture all incremental overhead costs that are in fact caused by LNP, since the impact of LNP cuts across literally thousands of functional groups that support other services. As a result, it is not feasible to directly account for each such function, nor is it possible to determine which activity may have caused a specific increase in its cost without the use of factors.

For example, as the attached economic paper discusses, Ameritech performed a cost study of overhead costs applicable to unbundled network elements. The study, although it only covered four of Ameritech's operations, took 2200 person hours and was very costly to perform. Subsequently, Ameritech analyzed retail shared and common costs. This second study took roughly twice as long as the original study, or around 4,400 additional person hours. Even so, the

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[4] See, LNP Cost-Recovery Order, para. 136.

studies could not specifically isolate and measure around 79% of incremental joint and common costs caused by the unbundled network elements or retail services without the use of allocation factors. Moreover, the network element study still had to attribute shared and common costs in the aggregate, rather than to individual elements.

In summary, the overhead costs of a carrier, like any other company, increase based upon the number and complexity of the functions it performs. In other words, not surprisingly, as a carrier grows, its overhead costs likewise grow. Thus, generally the larger the undertaking, the greater the amount of its overhead costs. It is absurd to conclude that Ameritech incurred no increase in overhead costs as a result of adding the very significant LNP facilities and functions, simply because it may not be able to uniquely account for all of them.

Consequently, it is incorrect to say that the use of allocation factors would lead to double recovery. Rather, Ameritech's proposed use of allocation factors simply recognizes the fact that each function performed by a carrier increases its overhead-type costs in ways that cannot be readily determined, but can be relatively accurately estimated. The best approach is to identify the incremental overheads of LNP that can be reasonably identified and measured, and then to estimate the balance of the incremental overhead costs caused by LNP through the use of allocation factors. The factors would, of course, exclude allocation of any non-incremental common costs. In fact, the Commission has approved this very approach for use in developing TELRIC costs for pricing interconnection and network elements. The Commission explained that "there will remain some common costs that must be allocated among network elements and interconnection services."[5] The Commission thus found that it is reasonable to use a "fixed

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[5] Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, and Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC

allocator" to allocate common costs.[6] The Commission should permit the use of the same methodology here.

III. LIKE OTHER NEW SERVICES, THE QUERY SERVICE SHOULD BE PRICED USING GENERAL OVERHEAD FACTORS.

The Commission should permit the use of general overhead factors to price the Query Service on the same basis as any other new interstate service. The position that incumbent LECs may not use general overhead factors to price the Query Service appears to be based upon a misunderstanding of the impact of new functions and services on overhead costs, and the ability of carriers to specifically identify each overhead cost applicable to it, in the absence of the use of general factors. The Commission's policies relating to most other services recognizes that overhead costs increase as a carrier adds new functions and services, and that those increases in overhead-type costs cannot be reasonably and economically uniquely identified. Moreover, there is no reason why any service should not contribute to the recovery of existing overheads that benefit the service. As a result, the Commission permits the use of overhead factors for virtually all interstate services, including new services under price caps, switched access services, special access services, open network architecture ("ONA"), virtual and physical collocation, etc. In fact, in another context, the Commission has found that the use of ARMIS data is a reasonable estimate of the overhead costs applicable to a new service.[7]

Docket No. 95-185, First Report and Order, released August 8, 1996, ("Interconnection Order"), para. 695. The Commission also correctly found that "[a]gain these common costs, setting the price of each discrete network element based solely on the forward-looking incremental costs directly attributable to the production of individual elements will not recover the total forward-looking costs of operating the wholesale network." As a result, the Commission found that "a reasonable measure of such costs shall be included in the prices for interconnection and access to network elements. (para 694).

[6] Id. para. 696.

[7] See, Open Network Architecture Tariffs of Bell Operating Companies, CC Docket No. 92-91, Order, released December 15, 1993 at para. 50 n.93.

The best approach is to calculate the overhead costs applicable to Query Service through the standard approach of estimating those costs via overhead loading factor based upon ARMIS data. That methodology is consistent with how other services at the federal level are priced and ensures the Query Service recovers overhead costs on the same basis as other new interstate services.

IV. CONSISTENT WITH OTHER SERVICES, ONE LNP MONTHLY CHARGE SHOULD BE ASSESSED TO EACH PBX TRUNK.

In its LNP Cost-Recovery Order (para. 145) the Commission correctly applied "one monthly number-portability charge per line." However, the Commission incorrectly excluded from this common sense rule PBX trunks and decided that "one PBX trunk shall receive nine monthly number portability charges . . . ." The Commission reasoned that assessing these additional charges to PBX trunks was necessary to maintain "equivalency" with Centrex lines. The Commission found that "to do otherwise could encourage a large customer to choose one of these arrangements over the other because of the number portability charge, and thus would not be competitively neutral."

Ameritech agrees with the Commission that incumbent LECs should be permitted to assess the monthly LNP charge to Centrex lines on a trunk equivalency basis. That is to say, in order to be competitively neutral, Centrex lines must pay $1/9^{th}$ of the charge paid by PBX trunk users. However, Ameritech does not agree that as a result, PBX trunks must pay multiple number portability monthly charges. Ameritech submits that such an approach is not only discriminatory, but also violates the Commission's own competitively-neutral standard since it could artificially encourage customers to opt for key systems that use single line business lines versus PBX systems.

This approach of imposing multiple charges on PBX trunks could also cause customers to choose services offered by CLECs that are not required to assess excessive number portability monthly charges to these services. In this regard, it must be remembered that the Commission has held in the LNP Cost-Recovery Order (para. 136) that CLECs are free to recover their costs as they see fit, and are, thus, not required to overcharge their PBX customers in order to recover all their LNP costs.

Moreover, the Commission did not make any finding that PBX customers should make a disproportionate contribution to the costs of number portability, nor did it find any cost justification for forcing PBX customers to pay multiple number portability monthly charges. Thus, the requirement that PBX customers pay a disproportionate share of number portability costs has no public policy or cost justification.

The application of multiple end user charges on PBX customers is also inconsistent with the method the Commission has used to apply trunk equivalency on per line charges in the past. The Commission has determined the Presubscribed Interexchange Carrier Charge ("PICC") shall be applied to Centrex lines through a line-to-trunk ratio of 9:1.[8] However, to achieve this result, the Commission did not assess 9 PICCs to PBX trunks, but rather accessed 1 PICC to each PBX trunk and 1/9th of a PICC to each Centrex line. The Commission reasoned that since the PICC is a subsidy from one class of customers to another (similar to the LNP monthly charge) that there is no reason why Centrex customers should pay more than users of a comparable PBX systems. By the same token, there is no reason why users of PBX trunks should pay 9 times the subsidy to LNP paid by users of other business lines.

[8] Access Charge Reform, CC Docket 96-262, Second Order on Reconsideration and Memorandum Opinion and Order, released October 8, 1997 at para. 23-42.

Another example is the end user common line charge ("EUCL") where the Commission decided not apply more than one to PBX trunks in order to achieve trunk equivalency with Centrex. Rather, users of PBX trunks simply pay one EUCL charge per trunk. The Commission did determine that trunk equivalency should not apply to Centrex lines because if Centrex uses more lines, then Centrex necessarily creates more line costs. However, that rationale does not apply here since the LNP monthly charge is a subsidy to LNP costs and not a cost of the Centrex line itself. More importantly, the Commission decided to phase out the use of trunk equivalency between PBX and Centrex, not by increasing the EUCL on PBX trunks, but rather by increasing the EUCL assessed to certain Centrex lines through the transition period.

A major concern arising from the Commission's decision to prescribe a different form of trunk equivalency for the LNP monthly charge is its impact on Ameritech's billing system, and consequently the quality of customer bills. The current formula for trunk equivalency has long been incorporated into the billing system and is used to bill the PICC and to implement state Commission ordered changes to the line rate/EUCL combination. This formula bills a single charge per PBX trunk and 1/9th of the charge per Centrex line.[9] Because this formula is well established in the billing system, changes such as the July 1, 1998 change in EUCL rates are relatively easy to implement, and far less likely to result in billing errors and subsequent customer confusion.

The Commission's decision to bill LNP monthly charges at nine times the business line or Centrex line rate will require major changes in the billing system to implement. Ameritech estimates that approximately 5000 person hours will be required to design and program these changes to the billing system. In some states, new billing tables will be required to implement this additional approach to trunk equivalency. Because LNP will be implemented on a wire center by wire center schedule, there is an even higher likelihood of billing errors and customer confusion resulting from this departure from prevailing practice.

V. THE COMMISSION SHOULD CLARIFY IF IT HAS ASSERTED JURISDICTION OVER UNBUNDLED ACCESS TO THE LNP DATABASE.

The Commission has preempted number portability pursuant to Section 251(e)(2) of the Telecommunications Act of 1996. As a result, in its LNP Cost-Recovery Order (para. 29) the Commission asserted jurisdiction over the recovery of "all costs of providing long-term number portability" including interstate and intrastate costs which shall not be separated. As a consequence, the Commission determined that there will be "an exclusive federal recovery mechanism for long-term number portability . . . " However, the Commission did not specify if or how it will regulate two related services, unbundled access to the LNP database and interim number portability.

In the Interconnection Order, the Commission concluded that incumbent LEC must provide unbundled access to "Number Portability downstream databases".[10] However in neither the First Interconnection Order nor the LNP Cost-Recovery Order did the Commission clarify the procedures under which unbundled access to the LNP database will be provided.

Since unbundled access to the LNP database is an unbundled network element, should it be provided under contract pursuant to Sections 251(c)(3) and 252 of the Telecommunications Act of 1996, or under federal tariff? If the network element is provided under contracts, then, are those contracts to be filed at the state or federal level, and if necessary, in which jurisdiction are

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[9] With respect to the line rate/EUCL combination, the exact fraction may vary by state.

[10] Id. at para. 484.

they arbitrated under the provisions of Section 252?

VI. THE COSTS OF INTERIM NUMBER PORTABILITY SHOULD BE RECOVERED THROUGH THE LNP MONTHLY CHARGE.

In the First Number Portability Order, the Commission concluded that it has the statutory authority to require that incumbent LECs provide "currently available number portability methods".[11] However, the Commission decided (para. 127) that it would only establish "guidelines" applicable to the recovery of the costs of interim number portability, that "the states must follow in mandating cost recovery . . ." The Commission then found (para. 130) that "states may apportion the incremental costs of currently available measures among relevant carriers by using competitively neutral allocators . . ."

Since the date of the First Number Portability Order, the Commission has asserted jurisdiction over the recovery of number portability costs and has established a competitively neutral recovery mechanism. Under the circumstances, the commissions in the Ameritech region have not yet established a competitively-neutral recovery mechanism for interim number portability costs, nor does it make any sense that they do so. Such efforts would, at best, be duplicative. At worst, it could conflict with the Commission's orders.

Under the circumstances, the Commission should clarify that in those states where a recovery mechanism has not yet been established for interim number portability, that the incumbent LEC involved may elect to have the costs of interim number portability incorporated into the LNP monthly charge. Although these costs are significant ($4.7 Million for Ameritech) they will have a very minor impact of up to $.01 on the LNP monthly charge for Ameritech. This

[11] Telephone Number Portability, First Report and Order and Further Notice of Proposed Rulemaking, released July 2, 1996 ("First Number Portability Order") para. 112.

approach will significantly reduce administrative and billing costs, and eliminate the confusion resulting from having two entries on a customer's bill for the same service – number portability. It will also eliminate the need to address the same issue before multiple regulatory agencies.

VII. FGA LINES, LIKE OTHER FX LINES, SHOULD PAY THE NUMBER PORTABILITY MONTHLY CHARGE.

In the LNP Cost-Recovery Order, the Commission held (para. 145) that incumbent LECs may recover number portability costs from "end users" of "access lines" excluding those that are subject to "Lifeline Assistance Program". However, the Commission also held (para. 135) that "it will not allow incumbent LECs to recover long-term number portability costs in interstate access charges." However, the Commission's order is unclear as to whether the LNP monthly charge applies to FGA access lines. On the one hand, FGA lines are access lines used by end users and are comparable to FX and other business access lines. On the other hand, FGA can be interpreted to be an access service.

Since FGA lines are used by end users and are competitive with FX lines, the Commission should clarify or find upon reconsideration that end users of those lines must pay the LNP monthly charge on the same basis as any other access line. As was the case with PBX and Centrex, the Commission should not allow the LNP monthly charge to influence customer decisions between services, or service providers.

It is important to understand that FGA lines, unlike other interstate access lines, are sometimes used by end users rather than interexchange carriers, as a form of access line comparable to other business lines. For instance, FGA lines are ordered by large business for connection to their private network. Since the lines provide a line side connection, they provide a second dial tone that can be used to originate and terminate calls. FGA lines are also associated with a telephone number and can give a business a local presence (like FX lines) where the calls are terminated to a PBX at a remote location.

Under the circumstances, it would be discriminatory to assess the LNP monthly charge to all business access lines, including FX, except FGA lines. Equally as important, such an exemption would not be competitively-neutral.

VIII. CONCLUSION.

For the reasons described above, the Commission should expeditious modify and clarify its LNP Cost Recovery Order as indicated above.

Respectfully submitted,

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Attachment A

Proper Recovery of Incremental Overheads For Local Number Portability

by
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I. QUALIFICATIONS

My name is Debra J. Aron. I am the Director of the Evanston, Illinois offices of LECG, Inc. My business address is 1603 Orrington Avenue, Suite 2000, Evanston, IL 60201. LECG, Inc. is an economics and finance consulting firm, providing economic expertise for litigation, regulatory proceedings, and business strategy. Our firm comprises more than 200 economists from academe and business, and has 13 offices in six countries. LECG's practice areas include antitrust analysis, intellectual property, and securities litigation, in addition to specialties in the telecommunications, gas, electric, and health care industries.

I received a Ph.D. in economics from the University of Chicago in 1985, where my honors included a Milton Friedman Fund fellowship, a Pew Foundation teaching fellowship, and a Center for the Study of the Economy and the State dissertation fellowship. I was an Assistant Professor of Managerial Economics and Decision Sciences from 1985 to 1992 at the J. L. Kellogg Graduate School of Management, Northwestern University, and a Visiting Assistant Professor of Managerial Economics and Decision Sciences at the Kellogg School from 1993-1995. I was named a National Fellow of the Hoover Institution, a think tank at Stanford University, for the academic year 1992-1993, where I studied innovation and product proliferation in multiproduct firms. Concurrent with my position at Northwestern University, I also held the position of Faculty Research Fellow with the National Bureau of Economic Research from 1987-1990. At the Kellogg School, I have taught M.B.A. and Ph.D. courses in managerial economics, information economics, and the economics and strategy of pricing. I am a member of the American Economic Association and the Econometric Society. My research focuses on multiproduct firms, innovation, incentives, and pricing, and I have published articles on these subjects in several leading academic journals, including the *American Economic Review*, the *RAND Journal of Economics*, and *the Journal of Law, Economics, and Organization*.

I have consulted on numerous occasions to the telecommunications industry on strategic and efficient pricing. I have testified in several states regarding the proper interpretation of Long Run Incremental Cost and its role in pricing; the economic interpretation of pricing and costing standards in the Telecommunications Act of 1996; limitations of liability in telecommunications; Universal Service; and proper pricing for mutual compensation for call termination. I have also submitted an affidavit to the Federal Communications Commission analyzing the merits of Ameritech Michigan's application for authorization under Section 271 of the Telecommunications Act to serve the in-region interLATA market, CC Docket No. 97-137. I have consulted in other industries regarding potential anticompetitive effects of bundled pricing and monopoly leveraging, market definition, and entry conditions, among other antitrust issues, as well as matters related to employee compensation and contracts, and demand estimation. In 1979 and 1980, I worked as a Staff Economist at the Civil Aeronautics Board studying price deregulation of the airline industry. In July 1995, I assumed my current position at LECG. My professional qualifications are detailed in my curriculum vitae, which is attached as Exhibit 1.

II. IT IS VALID AND APPROPRIATE TO RECOVER ALL INCREMENTAL OVERHEADS DIRECTLY ATTRIBUTED TO LNP

In its Third Report and Order ("LNP Cost Recovery Order"), the Commission concluded that it is appropriate to recover incremental costs incurred in the provision of Local Number Portability ("LNP") functionality. Specifically, the Commission says:

> ...Thus, we will consider as subject to the competitive neutrality mandate of section 251(e)(2) all of a carrier's dedicated number portability costs, such as for number portability software and for the SCPs and STPs reserved exclusively for number portability. We will also consider as carrier-specific costs directly related to the provision of number portability that portion of a carrier's joint costs that is demonstrably an incremental cost carriers incur in the provision of long-term number portability. Apportioning costs in this way will further the goals of section 251(e)(2) by recognizing that providing number portability will cause some carriers, including small and rural LECs, to incur costs that they would not ordinarily have incurred in providing telecommunications service.[1]

I understand this passage to mean that carriers may recover carrier-specific costs that are directly related to the provision of local number portability. The Commission recognizes that costs that would not have been incurred in the absence of LNP and which specifically benefit or support LNP are recoverable as part of the LNP monthly charge. In the next paragraph the Commission further validates the view that incremental costs of providing LNP are recoverable while at the same time limiting the means by which some of the incremental costs of LNP can be identified:

> Because carrier-specific costs directly related to providing number portability only include costs carriers incur specifically in the provision of number portability, carriers may not use general overhead loading factors in calculating such costs. Carriers already allocate general overhead costs to their rates for other services, and allowing general overhead loading factors for long-term number portability might lead to double recovery. [Footnote omitted.] Instead, carriers may identify as carrier-specific costs directly related to providing long-term number portability only those incremental overheads that they can demonstrate they incurred specifically in the provision of long-term number portability.[2]

[1] Federal Communications Commission, *In the Matter of Telephone Number Portability, Third Report and Order*, CC Docket No. 95-116. May 12, 1998, ¶ 73.

[2] Federal Communications Commission, *In the Matter of Telephone Number Portability, Third Report and Order*, CC Docket No. 95-116. May 12, 1998, ¶ 74.

In this paragraph, the Commission explicitly recognizes that overheads that are incremental to LNP are properly recoverable within the bounds of 251(e)(2). While recognizing the validity of recovering incremental overheads, however, the Commission rejects the use of general loading factors to account for these legitimately recoverable costs. Although it is not entirely clear whether, in its reference to *general* overhead loading factors, the Commission intends in this paragraph to prohibit the use of any and all loading factors to account for incremental overheads, it appears that it does so intend. The purpose of this paper is to explain why it is appropriate and reasonable to use cost allocations and overhead loading factors to account for and recover all of the direct, incremental costs caused by the implementation of LNP, including incremental overhead costs. Moreover, the failure to recover these incremental costs will violate the competitive neutrality mandate of the Telecommunications Act Section 251(e)(2) and the Commission's policy as articulated in its Orders. In particular, I will make the following points:

- Overhead-type costs increase with the size and scope of the organization; thus, an undertaking of the magnitude of implementing LNP functionality will have a significant *incremental* impact on overhead costs.

- Overhead costs that are incremental to LNP are directly attributable to LNP and should be recoverable.

- It is not economically feasible to identify and measure all incremental overhead-type costs without the use of factors and allocations.

- If the Commission's prohibition on incumbent LECs' using general overhead loading factors to account for incremental overheads was interpreted to preclude the use of any factors or allocations to identify incremental overheads, that interpretation would disparately affect incumbent LECs' ability to compete in both the product market and the capital market, and violates both elements of the Commission's two-pronged test for competitive neutrality.

III. IN A LARGE MULTIPRODUCT ORGANIZATION, MOST OVERHEAD COSTS ARE NOT COMMON COSTS

Economic theory classifies the different kinds of costs in multiproduct firms into the following categories:

Incremental costs of a new service, product, or functionality are costs that are incurred only on behalf of that service, are justified by that service alone, and would not be incurred had the service not been introduced. Incremental costs can comprise usage-sensitive costs, such as the costs of making a particular database query, as well as non-usage-sensitive or fixed costs. The switch software upgrades necessary to provide LNP are an example of non-usage-sensitive investment that is incremental to LNP. Because the incremental costs of a service would be entirely avoided if the service had not been introduced, and are justified by that service alone, all incremental costs are directly attributable to the service. This includes costs that are incurred to operationalize the service at the functional level, as well as incremental costs that are typically classified as overhead for accounting purposes. As an example of the latter category, if the addition of LNP functionality requires additional human resources personnel to support the additional functional personnel employed to implement LNP, those human resources costs would be directly attributable (incremental) overhead costs of LNP.

In a multiproduct firm, there are typically synergies or scope economies at many levels in the provision of the different services or products the firm offers. In order to account for these synergies, economic theory defines two other types of costs:

Shared costs of a multiproduct firm are fixed costs that the company incurs in order to provide a subset of (more than one) products, but that do not support the production of *all* services offered by the firm. These costs would be completely avoided if the entire set of services these costs support had not been developed or were no longer offered, but would have to be incurred if any one (or a subset of these) were offered. An example of a shared cost would be a generic upgrade to software for digital switching, which supports an array of vertical features of the switch. This investment does not support all services of the firm; for example, it does not support the local network access service.

The **common costs** of a multiproduct firm are fixed costs incurred on behalf of *all* services offered by the firm. These costs would be avoided only if the company shuts down entirely. The elimination of any one service or subset of services would not eliminate the truly common costs. Truly common costs would be avoided only if the firm stopped operating.[3]

Neither shared nor common costs, by definition, are volume sensitive. Any volume-sensitive cost would be avoided if the service were not offered. Therefore, by definition, volume-sensitive costs would be incremental, not shared or common. Moreover, common costs, by definition, do not vary with the scope of the firm. That is, true common costs will not be affected by the number of services the firm produces. Common costs must be incurred in order to produce the first unit of any service produced by the firm, and will not increase as the firm increases in scale or scope.

Examples of true common costs are the top management of a firm, such as (some of the costs of) the CEO. The costs of a minimal level of top management exist independent of the scale and scope of the company, because in order to produce the first unit of output of the first service offered, a company needs a CEO. The common costs of the CEO will only be avoided if the company stops producing *all* of its services.

It is critical to distinguish, however, between common or shared costs on the one hand, and what are, in reality, incremental costs. As I have stated, common costs, such as a minimal level of top management, must be incurred independent of the scope and size of the firm. However, even the costs associated with the CEO are not entirely common. Management functions have to grow as the company grows in scale or scope. The fact is that the CEO of a relatively small company, such as Advanced Micro Devices (AMD), which produces microprocessors, does not earn the same amount as does the CEO of Intel. The CEO of a large multiproduct company will likely have greater responsibilities

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[3] For further explanation see William J. Baumol and J. Gregory Sidak, *Toward Competition in Local Telephony* (Cambridge: MIT Press), 1994, pages 69-70.

and typically has more extensive experience and expertise. Consequently, CEO compensation varies with the scale and scope of the company. The growth in compensation costs that are associated with the growth in the scale and scope of the firm are not "common costs," but rather incremental costs to the new services offered. Hence, even what is typically treated as a common cost for accounting purposes is largely, in fact, an incremental cost. Indeed, in a large and complex organization, most overhead costs are properly incremental, and truly common (and shared) costs are typically small. This is because truly common costs are limited to those that would be incurred by a single-product firm to produce a minimal level of output. Truly shared costs are only those that would be incurred by a subset of all the firm's products, at their minimal level of output. All other costs are incremental to either the scale of production or to additional products.

Empirical studies have measured the effect of the scale of the firm on the growth of certain costs, such as the compensation of the CEO. For instance, economic research indicates that the elasticity of CEO compensation with respect to firm size tends to be around 0.25-0.3.[4] This means that for each 1% increase in firm size (measured by revenues or number of employees), CEO compensation increases by .25 to .3 percent. Conversely, if the firm size declines by 1%, the CEO's compensation would decline by only .25 to .3 percent. While the specific numerical estimates are not critical here, the point is that statistical analysis does demonstrate a positive relationship between this overhead cost and firm size. This positive relationship is likely to hold for many centralized services and functions.

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[4] Rose, N. and Shepard, A. "Firm Diversification and CEO Compensation: Managerial Ability or Executive Entrenchment?," *RAND Journal of Economics*, Vol. 28, No. 3, Autumn 1997.

Roberts, D.R. "A General Theory of Executive Compensation Based on Statistically Tested Propositions," *Quarterly Journal of Economics*, Vol. 70, May 1956.

IV. AMERITECH'S LNP COST STUDY DOES NOT AND CANNOT IDENTIFY ALL OF THE GENUINELY INCREMENTAL OVERHEAD COSTS OF LNP

The implementation of LNP by Ameritech is a huge undertaking. Regional implementation will involve several business units, dozens of different work groups, hundreds of employees, and hundreds of different job functions, and will ultimately cost hundreds of millions of dollars. More specifically, LNP required Ameritech to install brand new hardware and software throughout its network. LNP also required Ameritech to substantially upgrade existing network hardware, software, and databases as well as the systems that support the network. One example of such a support system involves the Signal Transfer Points (STPs) within Ameritech's network that process and route all SS7 signaling messages, including LNP queries. The introduction of LNP and the query service necessitated a more complex number screening process involving all of the dialed digits rather than just the NPA and NXX to determine the proper call routing. In order to create adequate capacity to perform this function, Ameritech had to increase memory (software and hardware) within its STPs to handle the additional instructions required to route calls correctly. In addition, the STP translation provisioning system (an operational support system) required new hardware and software to accommodate the additional digits. New and upgraded hardware and software must be integrated and tested. Once installed and tested, the hardware, software and support systems must also be maintained.

In addition to these activities that enable and maintain the network functionality required to provide LNP, there is also a wide variety of incremental administrative "overhead" activities performed by Ameritech that specifically support LNP. Examples include the development and maintenance of billing systems, ordering systems, and provisioning systems; the development and maintenance of field methods and procedures; network planning and engineering; developing and delivering training; product management; budget development and tracking; technical and regulatory support; and coordination with external industry participants (e.g., equipment vendors, Bellcore, CLECs, IXCs).

I have reviewed Ameritech's LNP cost study. The study specifically identifies all of the hardware, software and operational support system costs required to provide LNP. It also